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ABSTRACT

Many teachers work in the difficult situation of teaching academic subjects to students who are not academically oriented. Especially in high school, non-college-bound students are required to take two or three years of science and social studies. For these students schools offer lower-track classes that exhibit high failure rates and low teacher and student motivation. This study attempts to increase understanding of this situation and knowledge of what approaches work in motivating these students. The study focuses on the curricular goals that seem to guide effective teachers of non-college-bound students and what place extrinsic and intrinsic motivation had in such teachers' motivating strategies. In general, the results show that teachers de-emphasized subject matter knowledge goals with non-college-bound students while more openly advocating functional skill goals. For intrinsic motivation, teachers worked on increasing students' feelings of efficacy in the classroom. Developing student interest in the subject was a strategy used to nurture intrinsic motivation. This paper includes an abstract, introduction, research methods, results, summary and findings, implications, and references. (RT)

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Curricular Goals and Motivating Strategies with Non-College-Bound Students in Science and Social Studies

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Abstract

A descriptive study of curricular goals and motivating strategies for non-college-bound students employed interviews with 17 middle school and high school teachers of science and social studies, recommended as effective by a midwestern urban school district. Findings indicated that, with non-college-bound students, teachers shift curricular goal emphasis away from subject matter content learning towards remedial cognitive development. Teachers perceived such students as unmotivated; however, few teachers responded by re-orienting curricular goals to maximize relevance to the students' lifeworld. Instead, they streamlined the academic curriculum. All the teachers emphasized strategies to overcome negative academic self-concepts and revive non-college-bound students' extrinsic motivation to work for grades. Only a few emphasized strategies to develop students' personal learning themes and stimulate intrinsic motivation to learn the subject.

Introduction

This paper presents the findings of an exploratory study of the curricular goals and motivating strategies of middle school and high school teachers of science and social studies. The focus of the study is on what works with "non-college-bound" students--high school students in non-college-preparatory courses and middle school students well below the school average in the academic achievement distribution.

Such teachers work in a difficult situation. They teach academic subjects to students many of whom are not academically oriented. Particularly in high school, non-college-bound students are required to take two or three years of science and social studies (depending on the state). For such students, schools offer lower-track classes that exhibit high failure rates and low student and teacher motivation.

The study attempts to increase our understanding of this situation and our knowledge of promising approaches to motivating non-college-bound students in academic subjects. Researchers (Rosenbaum 1976, Oakes 1985) have criticized schools for providing a watered-down curriculum and a busywork regime for such students. Effective schools researchers (Brookover, Beady, Flood, Schweitzer, & Wisenbaker, 1979; Rutter, Maugham, Mortimore, Ouston, and Smith, 1979) have argued in general that academic priorities and high expectations are effective in

teaching students from lower socioeconomic neighborhoods, but such research emphasizes general school climate rather than how specific subjects are taught. To go further, we need to focus on what effective teachers do in science and social studies. What curricular goals do they emphasize? What motivating strategies do they use?

To identify curricular goals, it is necessary to understand the conceptual framework guiding the teacher's choice of materials and activities for classwork. Eisner (1979, pp. 50-73) distinguished five conceptual frameworks for formulating curricular goals:

> academic rationalism--increasing knowledge of academic subjects
>
> cognitive development--learning to think and to learn how to learn
>
> personal relevance--fostering learning that is personally meaningful to students
>
> social adaptation and reconstruction--meeting the needs of society
>
> technology--operationalizing goals in efficient teaching and learning programs.

With non-college-students, the choice of framework seems to be problematic. Should teachers adhere to academic content goals regardless of students' lack of readiness, effort, or interest? Or should teachers subordinate content coverage to cognitive development goals, on the ground that it is more important that these students learn to think than that they learn particular facts or concepts? It is possible, moreover, to argue that both

the academic rationalism and cognitive development frameworks are too intellectual in orientation for non-college-bound students. Perhaps curricular goals for such students need to be re-thought in terms of what society needs such students to be able to do and what the students themselves find personally meaningful to study.

The present study derived three curricular goal categories from Eisner's list: academic rationalism, cognitive development, and social and personal relevance (a combination of two of Eisners' categories). The question is how effective teachers prioritize and interpret such goals for their non-college-bound students.

In addition to curricular goals, there is a need for more information on how effective teachers attempt to motivate students. In particular, we need to know more about how teachers effectively employ extrinsic and intrinsic incentives to learn.

Extrinsic incentives are rewards with no inherent relationship to learning that are imposed as contingencies on students by schools. A major set if such contingencies is what Doyle (1977) called the "exchange of performance for grades," and the continuing operation of schools depends in no small part on the success of this exchange. The performance-grade exchange punishes more than rewards non-college-bound students, however, and the lack of rewards gradually extinguishes such students' positive responses to grades as incentives. In a previous study, one of the researchers found that students in lower-track classes

in high school were more likely to report feelings of futility about doing well in class than students in college-preparatory classes (Duckworth, Fielding, & Shaughnessy, 1986). Can teachers escape this deadly process and revive extrinsic motivation, and, if so, how?

Many researchers on motivation criticize schools for over-emphasizing extrinsic motivation (Stipek, 1984; Deci & Ryan, 1985). They argue for greater school effort to develop intrinsic motivation to learn--spontaneous curiosity and commitment to go on learning about a topic, regardless of extrinsic incentives. In a previous study of high school class cutting, many school administrators and teachers seemed to doubt that it is possible to develop intrinsic motivation to learn science and social studies among non-college-bound students (Duckworth & deJung, 1986). If some teachers are able to kindle intrinsic motivation, how do they do it?

In sum, the study asked what curricular goals seemed to guide effective teachers of non-college-bound students, and what place extrinsic and intrinsic motivation had in such teachers' motivating strategies.

Research Methods

Seventeen middle school and high school teachers in a midwestern metropolitan school district participated in the study. Teachers were selected from ten schools that belonged to an intra-district consortium to improve schools serving at-risk students. Within these schools, teachers were selected on the basis of their reputations with district personnel for being effective in motivating non-college-bound students in science and social studies. District personnel reported making their recommendations based on advice from school principals and on their own experience with teachers in district workshops. All teachers contacted volunteered to participate.

The sample may be further broken down as follows:

high school science:
- 2 teachers of 11th grade physical science
- 2 teachers of 9th grade general science

middle school science:
- 4 teachers of 8th grade earth science
- 1 teacher of 6th grade integrated science

high school social studies:
- 4 teachers of 9th grade geography

middle school social studies:
- 3 teachers of 8th grade U.S. history (to Civil War)
- 1 teacher of 6th grade geography

Each teacher participated in a 45-minute semi-structured interview during the 1987-88 school year about their goals and strategies with non-college-bound students. In high school, interviews focused on non-college-prep classes. In middle

school, interviews focused on lower-track classes or lower-achieving students in untracked classes.

The interview asked two questions specifically about curricular goals. First, what was the teacher's purpose in teaching the class in question? Second, how would teachers rank four goals: increasing students' knowledge of the subject; increasing students' skill in thinking and problem solving; stimulating students' interest in the subject itself; and connecting subject with students' awareness of current social issues or personal concerns?

The interview also asked teachers to describe their motivating strategies. The researchers specifically probed four methods: how teachers graded assignments and tests; how they invited participation in class discussion; what (if any) personal enthusiasms about the subject they shared with students; and what activities or topics seemed to be intrinsically interesting to students.

Both curricular goals and motivating strategies were further investigated by asking teachers to comment on statements about the value of studying the teacher's subject, framed in terms of academic rationalism, cognitive development, and social and personal relevance. The statements, with alternative phrases for science and social studies, are included in Figure I. Teachers were asked how well the statements matched their own beliefs in teaching non-college-bound students.

Figure I
Curricular Frame Statements

1. Academic rationalism

   a. A knowledge of (science/social studies) is necessary for every educated person.

   b. It is important that students understand how (scientists/social scientists) work and create new knowledge.

2. Cognitive development

   a. Learning (science/social studies) content is not as important as learning how to think.

   b. It is most important that students learn how to identify problems and take a methodical approach to solving them.

3. Social and personal relevance

   a. Our society's welfare depends on people (understanding how science and technology affect the environment and the economy/having a better understanding of current social issues).

   b. Students need to know more about their own (bodies/world), and (science/social studies) can help them.

   c. Students need an education in (science/social studies) in order to succeed in today's world.

   d. (Science/socials studies) is fun once students really understand the subject.

Results

Teachers' Perceptions of Non-College-Bound Students

Although the interview did not ask specifically about the difficulties of teaching non-college-bound students, most teachers commented on that topic, and their comments provided a window onto the perceptual background of these teachers' goals and strategies. Brief representations of each teacher's comments about their students are displayed in Table I.

These teachers described their students as having poor language and math skills that made it difficult to use at-grade-level materials. Thus, they perceived the students in terms of skill deficits. Many of the teachers also commented on the motivational consequences of these deficits. They described their students as "shut down" and "turned off" by years of failure in school. One teacher (10) stated that "their natural curiosity has been squelched by school."

The motivational problem goes beyond academic skills, however. Teachers perceived these students as turned off to school in general. Energies that might have been invested in school learning were instead primarily invested in social life and jobs. Low occupational aspirations left the students without a felt importance to learning. One teacher (2) believed that this diversion of energy left their stress level in class too low for learning to occur.

Table I
Teachers' Perceptions of Non-College-Bound Students

Teacher #	
	High School Science Students
1.	Sometimes come to class wanting to sleep or be disruptive.
2.	Have low career aspirations and a too-low stress level.
3.	Have poor self-concept and social skills, invest energies in social relationships and jobs rather than school.
4.	Have very low skills, are immature, don't connect things, allow social life to drain energy for school.
	Middle School Science Students
5.	Are shut down, not motivated by grades, ready to fail.
6.	Are frustrated by obstacles, have a poor self image.
7.	(No comments)
8.	Are going through physical and emotional changes, want the intensity of stimulation they get from TV.
9.	Are not motivated by grades.
	High School Social Studies Students
10.	Have had their natural curiosity squelched.
11.	Can't read well; can be mean.
12.	Have a know-it-all attitude, a short attention span, and see school as a hurdle to get over.
13.	Have academic weaknesses, lack self-discipline.
	Middle School Social Studies Students
14.	Are turned off to social studies.
15.	Are generally negative and turned-off.
16.	Require a very high energy level in the teacher.
17.	Lack work habits.

The teachers attributed these problems partially to the school system itself, but they also attributed them partially to conditions in the larger society. Some of these conditions derived from poverty and pathological family and community situations. Drug use, teenage pregnancy and parenthood, and inadequate and even abusive parents were mentioned. Some teachers widened their criticism to include the whole hedonistic culture of adolescence fostered by modern society and the media.

In sum, their comments made it clear that these teachers perceived non-college-bound students as presenting a formidable challenge to the academic subject teacher. Yet their comments were often compassionate as well as critical, although the compassionate quality was more in how they said things than what they said. They seemed to feel that their students had had difficult lives and warranted some special response from the school and the teacher.

Curricular Goals

One type of response was a modification of curricular goals. The teachers' statements of purpose in teaching these students, elaborated as the teachers attempted to rank the four goals of knowledge, thinking, interest, and relevance, are summarized in Table II. Table II also shows the goal ranked highest by each teacher. Several teachers reported difficulty in ranking the

Table II
Teachers' Statements of Purpose and Goal Priorities

Teacher #		Main Goal
	High School Science	
1.	Make sure the kids learn some science this year.	Knowledge
2.	Develop enthusiasm, participation in class.	Interest
3.	Relate concepts to situations outside school.	Thinking
4.	Give students the sense that science is part of their everyday lives, pervading their world.	Thinking
	Middle School Science	
5.	Address personal concerns, build self-confidence.	--
6.	Teach skills of organization, observation, and reading; main goal: develop love of learning.	Interest
7.	Concentrate on method, procedure, organization.	Thinking
8.	Show science is part of students' daily lives.	--
9.	Get kids excited about science in daily lives.	Interest
	High School Social Studies	
10.	Get students to enjoy news on current events.	Interest
11.	Get kids to remember where countries are.	--
12.	Get kids to know about own state and locale, U.S. vs. other countries, develop map skills.	Interest
13.	Get kids to know the world about them, current issues, learn work habits to "play the game."	--
	Middle School Social Studies	
14.	Build skills in map reading, critical thinking, working in groups, library research, presenting.	Thinking
15.	Prepare students to be informed, responsible, functional human beings in today's world.	Relevance
16.	Develop positive attitudes to prepare students for later planting of knowledge.	Interest
17.	Get kids to "live history," learn where they came.	--

goals on the grounds that they were interdependent, and five teachers declined to rank them.

Few of these teachers (1, 10, and 11) placed heavy emphasis on academic content in their goals for teaching these students. Only one high school science teacher (1) ranked knowledge of subject as the main goal. As a group, the high school social studies (geography) teachers were the most oriented to course content, but two of them seemed to stress content relevant to the lifeworld (including map skills) rather than general content. On the other hand, although Table II does not show the complete ranking of goals, only a few of the teachers relegated academic knowledge to lowest priority.

Several teachers (3, 4, 7, and 14) emphasized the goal of getting the student to think. Some of them seemed to interpret this goal in terms of basic cognitive and behavioral skills rather than "higher-order" thinking skills. Another teacher's (6) statement of purpose also emphasized basic skills. The idea of general, cross-situational human functioning seemed to be important here, although some of the science teachers linked the thinking goal to their attempts to teach the scientific method (an academic rationalism goal).

Several teachers gave the highest rank to increasing students' interest in the subject (2, 6, 9, 10, 12, and 16). Their initial statements of purpose did not always predict this ranking. Sometimes, the meaning of these teachers' emphasis on

student interest emerged only gradually in the interview, as they moved from the letter to the spirit of their objectives.

Although only one teacher (15) ranked social and personal relevance highest, several teachers (3, 4, 8, 9, 12, 13) included this theme in their statement of purpose. Four of the nine science teachers emphasized getting students to appreciate the everyday relevance of the subject.

Further information about teachers' curricular goals was provided by their comments on the eight statements in Figure I framing the value of studying their subject in terms of academic rationalism, cognitive development, and social and personal relevance.

The science teachers seemed more comfortable with the cognitive development statements than the academic rationalism statements. They were dubious about their non-college-bound students needing to become knowledgeable about science or scientists, but they were sure of the importance of thinking. Some amplified this emphasis on thinking as consonant with their goal of teaching the scientific method. On the surface, this seems inconsistent with their low emphasis on students' knowing how scientists work. On probing, however, some seemed to interpret the scientific method as a deliberate, orderly, methodical approach to problems and tasks as much as (or even more than) a process of inquiry.

The inquiry values of science seemed to come out more in teachers' comments on the personal and social relevance statements. The science teachers all agreed that what they could serve the needs of society and of students by teaching the student to act as a "researcher" in protecting their future interests in business ventures, product purchases, and personal health maintenance. Inquiry, in other words, meant general pragmatism.

Among the social studies teachers, only the high school geography teachers emphasized the value of becoming knowledgable about their subject. In general, the social studies teachers seemed puzzled by the statement about the value of learning how social scientists create new knowledge. Some seemed to doubt that there was a typical research method in the social sciences. These teachers gave less emphasis to cognitive development values than did the science teachers. Instead, the social studies teachers valued their subject as a way to enlarge the non-college-bound student's lifeworld and to stimulate awareness of the effect of the physical and social environment on ideas and behavior.

In sum, the analysis of curricular goals produced complex results. Few of these teachers could be neatly pigeon-holed in mutually-exclusive categories. In general, the teachers de-emphasized subject-matter knowledge goals with non-college bound students while more openly advocating functional skill goals

ranging from basic literacy to methodical problem-solving. This shift in emphasis was subtle, however.

Although the teachers were aware that many of these students were unmotivated in their classes, few made that problem the central focus of their teaching. Similarly, although the teachers believed that there were benefits to both society and the individual in applying their subject to lifeworld topics, few attempted to re-orient their curriculum to lifeworld topics. In other words, these teachers tended to adhere to content and skill goals even with students for whom such goals were problematic. Some of these discrepancies between awareness and goals were noted by teachers themselves during the interview, and some made mental notes to themselves to act on these insights in the future.

Middle school teachers, especially those with elementary certification, were more likely than high school teachers to exhibit a major shift to motivation as a goal. It should be noted, however, that the sample did include high school teachers who explicitly set aside the content focus they employed with college-track students to devote their energies to motivation with non-college-track students.

Motivating Strategies

Reviving extrinsic motivation. Teachers' strategies for reviving extrinsic motivation--the performance-grade exchange--

included increasing students' feelings of efficacy in classroom work. They also involved supplementing weak extrinsic incentives with social incentives built into the work regime. Finally, they involved providing what psychologists call "consummatory" rather than "instrumental" experiences along the way--events that were mainly for fun.

Since none of the teachers seriously departed from the prescribed curriculum, and since several recast the content objectives in terms of basic skill deficits, they all endeavored to resocialize the non-college-bound student by making his or her passage through that curriculum more efficacious than it had been in the past. This involved adapting the content of the academic curriculum to the students' skill levels and (initial) levels of engagement, rewarding students for improvement, and responding to student failure by indicating how to catch up.

In adapting the curriculum to the students, many teachers provided the student with condensed text material for easier reading. They gave students points for orally answering questions on the assignment each day. Their work assignments were designed to be completed during a single class, and many gave little homework. They communicated clear expectations about what would be on tests, and followed through on those expectations. They tested frequently, sometimes giving pop quizzes at the beginning of class to reward prompt attendance, and feedback was also prompt. They took every opportunity to

praise students' work. In addition to points for prompt completion of assignments, students were rewarded for organizing and maintaining cumulative notebooks of assignments.

These point systems allowed students to recover from early lethargy and intermittent slumps, and they allowed students to accumulate points to counter-balance possibly poor final exam scores in the course grade. They gave credit for progress rather than mastery; some even gave different tests to different students. Teachers seemed fairly comfortable with using different grading practices from year to year and class to class.

Some teachers viewed this strategy as a means to overcome the failure syndrome by alleviating feelings of hopelessness and helplessness about succeeding in the curriculum. Students needed to recover hope that they could pass the course. They also needed to develop the belief that specific efforts would lead to specific positive outcomes.

Some teachers reported that their students' low ambition resulted as much from basic disinterest as from hopelessness. Hence they sought to augment extrinsic rewards with social approval incentives by using student group activities such as peer teaching, teams to prepare for tests, and cooperative learning activities. Most reported that students not only liked working with their classmates but felt an obligation to work to improve their team's standing.

Teachers also tried to motivate students by responding to their needs for adult affection and approval. Many saw their students as hungry for personal caring, and they felt that their success stemmed in no small part from the fact that they genuinely liked their students, who responded to the feeling that the teacher liked them and cared that they came to class and did their work.

Finally, to make the academic curriculum palatable, these teachers built entertainment into the regime. They provided games and other fun activities when work was done. Science teachers had the advantage of being able to explode things. While some of these activities were related to curricular content, their purpose was to reward rather than instruct.

For a few of the teachers interviewed, the adapted curriculum was largely oriented to reduction of discipline problems. These teachers recognized that their reputation for being effective with these students stemmed from not having to send students to the office. One described the virtue of their teaching not in terms of learning but in preparation for adult jobs that would not also not be motivating--students have to be "responsible for doing things you don't like to do." Several streamlined the work regime to the point of reducing it to a series of simple copy and assembly tasks like coloring maps and copying words from texts to worksheets, easy tasks which they felt pleased their students.

For most of the teachers, in contrast, reviving extrinsic motivation was only half the game. They also attempted to build intrinsic motivation to learn about their subject.

Nurturing intrinsic motivation. As reported earlier, several of these teachers claimed to give highest priority to developing student interest in the subject. Some teachers allocated time for activities that invited and intrigued students to think about puzzling phenomena, to explore and inquire into possible explanations and applications, and to develop some product or performance that would communicate the results of their work to others. An example would be lab activities where students combined unknown agents and tried to explain the observed results. More ambitiously, the teacher might provide students with a set of materials or clues and let the students generate a problem. Teachers admitted that there were risks in allowing independent activity with students whose entering motivation was low, but they felt that over a year they could build cooperation. An important factor was that the students feel secure that investment in the activity would not jeopardize grades.

To fire students' imagination for such activities, teachers attempted to be a positive role model of intrinsic motivation in themselves learning more about their subject. Some shared personal enthusiasms for curriculum-related topics, like cave

exploration and rock collections (earth science) and travel (geography).

In addition to finding opportunities for intrinsic motivation in the curriculum, some teachers periodically stepped outside the framework of the academic curriculum and attempted to elicit students' native interests in the world around them. The rationale was that these interests would get students wondering and questioning about things. These teachers did not limit their focus to students' prior awareness. Instead, through field trips and films, they provided vicarious exposure to natural and social phenomena outside the lifeworlds of the students. Sometimes, they were able to build on current events, especially wars and environmental disasters. They were aware that their students' fantasy lives could be as fruitful of learning themes as their practical lives, and they wanted to expand their fantasy lives.

An outstanding example of this expansion of fantasy in the service of learning was the interdisciplinary theme fairs held by several of the middle schools. For these fairs, "families" of teachers and students would prepare and present exhibits and demonstrations on some theme, such as pre-Civil-War pioneer life. Students from other schools and parents would visit the school during the fair and give students an audience for their efforts. Of course, these events were held for all the students, but teachers said that they provided a special opportunity for the lower-track student to get recognition and applause, and they

sometimes elicited impressive efforts from students who did little in the classroom.

On a more daily basis, teachers set aside times for open question and discussion times about students' concerns. The teachers believed that students could be motivated by the opportunity to talk instead of just listening to the teacher all the time, and it could be difficult to get them to talk about the subject matter. They attempted to empower active learning about personal themes by having students do research on these topics, plan personal or class activities (e.g., trips) to investigate the matter further, and visit agencies dealing with the problem. They reported that students responded most actively to topics related to sexuality or aggression, such as contraception, teenage pregnancy, AIDS, and war. One led a role-playing exercise in which students prepared to enact the positions of different people involved in a decision to admit a student with AIDS to a school.

As indicated above in teachers' perceptions of these students, stimulating and leading productive discussions was a difficult task. Some students simply refused to believe that the teacher would be interested in their opinion, and the teacher was hard put to lead them out. Some students behaved impulsively and rudely to others once discussions were underway, so the teacher had to be both patient and thick-skinned. According to one teacher, fall-term discussions didn't really flower until about

November, but by spring the teacher saw real growth. In these free-wheeling discussions, teachers continued their strategy of alleviating hopelessness. In general, they tried to create a social milieu in which students who had been shut down could open up again. A diffuse positive relationship between teacher and student was important in this endeavor. The teachers felt that establishing positive relationships with these students in non-classroom activities was important.

While teachers tried to tie curriculum-based intrinsic motivation back to regular instruction, these trans-curricular teaching efforts were open-ended and heuristic rather than focused on preset goals. Teachers were willing to let discussions and exercises develop in the direction chosen by the students. They were satisfied to have stimulated active thinking and argument about lifeworld problems.

Although efforts to revive extrinsic motivation usually had to be implemented throughout a course, efforts to nurture intrinsic motivation were usually add-ons within or between units. Developing whole units or even courses to generate intrinsic motivation seemed a strange idea to the teachers. Perhaps the effort involved and the possible threat to curricular standards are prohibitive, given teachers' work loads. In any event, the result is that the curriculum remained intact, even though teachers and district officials alike described some of the courses as unsatisfactory and as "dumping grounds."

The capacity of these teachers to go beyond this situation varied. There were a few teachers radiated an overall optimism and high energy level; they described a strong instructional program that, according to the teacher, swept the students up into learning in spite of themselves. Some of the other teachers were less sanguine but reported a dogged determination to reverse the negative tide in their students' lives; they seemed happy to report small hard-won successes. These teachers felt successful at least part of the time in sustaining intrinsic motivation in the curriculum. At the other extreme from the optimists, a few of these teachers seemed seriously demoralized by this teaching assignment, so much so as to make the researcher wonder why the teacher had been recommended as effective. It is possible, of course, that the interview simply occurred at a bad time for the teacher. In general, however, these teachers seemed to overcome the negativism that is often heard among teachers of students they perceive as deficient in ability and motivation.

Summary of Findings

The study investigated the curricular goals and motivating strategies of reputedly effective teachers of non-college-bound students. With such students, these teachers did exhibit a subtle shift away from academic knowledge goals towards cognitive development and social relevance goals. It would not be accurate to say that they abandoned academic knowledge goals, however; nor

would it be accurate to say that they re-created the curriculum around different values. Instead, there was a decision to be more flexible and pragmatic and a yearning to get students to make connections between the curriculum and lifeworld concerns.

That decision seemed to be motivated by a commitment to reach these students, and it seemed to be enabled by the teachers' security about themselves and their investments in their subject. These teachers were confident enough to transcend the threats that unmotivated students pose and to sustain a personal liking for students whom other teachers disliked. They were well enough rooted in their subject to draw upon resources and imagination outside the published curriculum and create novel learning situations for their students.

The teachers employed similar techniques in reviving extrinsic motivation. They clearly felt that subject matter framing, while important, was not the major problem with non-college-bound students. Promises of long-term payoffs for learning the subject and appeals to the importance of the subject had little impact. Instead, the basic contract of performance-grade exchange had to be rehabilitated as a foundation of trust and cooperation upon which the teacher could then be creative in making the curriculum exciting and relevant.

In contrast, the teachers were remarkably diverse, within subject and within school level, in how (or whether) they attempted to develop intrinsic motivation. Each teacher seemed

to find a personally appropriate way of developing intrinsic motivation. And yet there were common themes. Many recognized that, in the absence of a "good student" mentality voracious for academic content, the basic learning schemata of students had to be elicited and developed in terms of lifeworld concerns. This meant getting to know the students and their lifeworlds more closely than might appeal to many other teachers. Many also recognized that assigning the student an active learning task for which the student had to take responsibility was not only essential for student engagement but might constitute an important educational outcome in its own right. This meant recognizing and valuing thinking processes which might seem immature and eccentric (off the wall) to teachers more wedded to linear rationality and deliberate persistence.

The findings confirm the magnitude of the problem of developing motivation among non-college-bound students in academic subject areas. While these teachers seem to feel that they are able to make some progress towards their goals and get a positive response to their motivational strategies, they also feel constrained by the social context of their work. Many of these students are vulnerable to parental abuse or indifference, scarcity of material resources, their own impulsiveness in social relations and recreation, and the burdens of adolescent pregnancy and parenthood. Teachers may make progress with students only to have them disappear in the middle of the year. A similar

constraint is imposed, in the view of some, by the tracking system that makes non-college-prep classes "dumping grounds." In these circumstances, teachers' efforts to motivate students can seem as absurd as the labors of Camus's hero, Sisyphus, condemned to roll the same rock up the same hill day after day.

Implications

Implications for Research

The purpose of an exploratory study is to suggest avenues for further research. An obvious next step in this research is moving beyond the teacher's perceptual framework and studying how these goals and strategies work out in practice and what impact they have on students. The present study did not attempt to ascertain how accurately teachers described their actual practice or how effective practice was in motivating students.

Another limitation of the present study was the absence of information about goals and strategies of a comparison group of "ineffective" teachers. It is possible that such comparison might support arguments for changing the practice of ineffective teachers. However, correlation is not causation, and in the absence of experimental research on a program of goals and strategies, it is doubtful how much would be learned by the comparative approach.

Yet it is also doubtful that such an experimental program would be productive. The temptation to treat these teachers'

practices as replicable must be resisted, given the idiosyncratic and flexible character of the goals and strategies described, especially those involving intrinsic motivation. To the extent that effective practice depends on the personality and priorities of the teacher and on the quality of the teacher-student relationship, a program of generalizing research may be less constructive than a program of action research by individual teachers. Such research, with colleagues assisting in formative evaluation of results, seems more appropriate to the situation. If goals and strategies depend on a fundamental commitment to reaching these students, then research should not attempt to bypass the generation and refinement of that commitment. It is arguable that individual programs of action research rather than a generic, "teacher-proof" package of strategies will do more to build and sustain that commitment.

Implications for Practice

The insights that the subjects reported while discussing their curricular goals suggests the importance for teachers in clarifying and relating their curricular goals for non-college bound students. The success they reported in reviving extrinsic motivation suggests that other teachers adapt their programs likewise, even at the risk of seeming to lower standards or water down the curriculum.

Also indicated for wider participation is these teachers' unfinished business of opening up avenues for students to discover and develop their curiosity about their physical and social lifeworld. The idiosyncratic nature of these teachers' efforts to kindle intrinsic motivation suggests that inservice workshops for developing intrinsic motivation resist participants' preference for cut-and-dried methods they can use "on Monday." The kinds of decision-making and personal investment in process characteristic of the most ambitious of these teachers suggests that inservice needs to go beyond helping teachers copy one another; it needs to engage them in imaginative design of new curricula that build on their personal strengths and inclinations.

These teachers' efforts would benefit greatly from more collegial and organizational support. Working with difficult students can drain a teacher. The fact that some of even these reputedly effective teachers exhibited a control orientation and demoralization suggests the need for emotional, moral, and technical support from other teachers. Teachers also need more resources for the kinds of activities that develop intrinsic motivation.

Implications for Policy

As mentioned, the social context of teaching non-college-bound students also needs to change if teachers' efforts to

improve are to be fruitful. Curricular policy makers need to rethink the values to be served by instruction in science and social studies for non-college-bound students. Teachers like those who participated in this study need to have greater discretion in curricula and the time and resources to use that discretion constructively. To the extent that tracking contributes to the problem, teachers need to be encouraged and supported in finding ways to minimize the negative aspects of tracking. It should be possible to do without tracking at all in middle school in these subjects. In any event, there can be no justification for required courses in which it is difficult if not impossible for committed teachers to interest non-college-bound students in learning about the subject. Science and social studies can illuminate their lifeworld; at present, that illumination is scattered and flickering.

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